

## **Native Grasslands Restoration: A Project Management Nightmare?**

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### **Introduction**

When I was asked to present at this conference my initial thoughts were to share with you my recent experiences as a project manager responsible for a native grass revegetation project. When I began to put pen to paper I realised that as a project manager the problem that most bothered me was the degree of difficulty in translating the knowledge of the individuals and organisations like Friends of the Grasslands into concrete results. By that I mean healthy native grass growing out of the ground, on time and under budget!

One way to help bridge this gap is for project managers in the construction industry to learn more from individuals and organisation like FOG with expertise on native grass. The other side of the coin is for groups like FOG to have a better appreciation of what goes on in a project management office in the construction industry. Over the next twenty minutes or so I will be offering you some insights using examples from the revegetation project. I also will touch on the way entrepreneurs are filling that gap.

### **Background**

There have been some relatively large native grass projects here in the ACT and in NSW in recent Years. In the ACT Russel Offices, Anzac Parade and Lower Molonglo are probably the largest. In Sydney the Olympic Village site native grass planting was or is at the larger end of the scale in Australia. I noticed in a recent publication that in the USA plans are under way for volunteers to reinstate about 20,000 acres of native prairie grass on what was an army ammunition supply facility near Chicago. (National Geographic, Earth Almanac, Vol. 190, No. 5, November 1996) This could be an opportunity for some information sharing.

Our relatively large native grass projects all have one thing in common. They are generally part of a larger construction project. They are managed (or mismanaged depending on your view point) by project managers who are almost invariably professional engineers. These engineers are increasingly using sophisticated tools including powerful software to manage their projects. Contemporary project management techniques vary between organisations however they all have a number of common underlying objectives. Simply put, to build or create what the client is paying for on time at the agreed price to the required quality.

A good project manager with an appropriate tool kit and good monitoring systems in place should be able to anticipate problems and react in advance to accommodate them.

### **Project Management**

The point I am making is that project management is a highly structured discipline. For instance in project management jargon a project is defined as a group of activities with a clearly defined start and finish. Every project has a life cycle. The project is typically broken down into 4 or 5 phases ranging from scoping the project at the start

to handover to the client on completion. These phases are in turn broken down to increasing levels of detail in what is known in the profession as the work break down structure or WBS. This is the ultimate in reductionism. It is a very powerful tool for identifying the critical elements of a project. In other words which tasks need to be done first and which tasks have the potential to delay the project completion date and cause a cost overrun. This is known as the critical path. Modern software also provides the project manager the ability to run 'what if' scenarios as a means of optimising the project especially when things are going wrong. It should come as no surprise to learn that many of these project management tools and techniques have their origins in the military supply arena.

Enter native grass, Australia's most endangered natural ecosystem! By definition an ecosystem seems to require a holistic approach. This is a project managers nightmare; or is it?

### **The Project**

In October 1994 I was working for ACTEW as a project manager with responsibility for a number of relatively large construction projects at Lower Molonglo Water Quality Control Centre which is Canberra's sewerage treatment works.

About that time it was put to me quite forcibly by a representative of the Canberra and South East Region Conservation Council and others involved in research programme funded by ACTEW on the endangered pink tailed legless lizard including Sandi Jones that we must revegetate our construction site with native grasses. The focus seemed to be on kangaroo grass primarily because of habitat considerations. I started looking for source of seed shortly afterwards. I imagined it would be a simple matter of locating a supplier, purchasing the quantity required and arranging a contract to have it planted. This is after all what the construction industry does for revegetation. Easy! if you are happy with exotic grass species that is.

Sarah Sharp soon put me straight. It turned out the we would have to harvest the seed preferably from the site area and preferably from the same side of the river and certainly from within the local catchment area. Sarah and a few other people including Doug Waterhouse gave us some invaluable help in the early stages of planning. In retrospect it was as much about a crash course on native grass as it was about planning a project. I went from knowing grass as something that some animals eat and if you mow it you may get a lawn, to a stage a few months later of being seen on a road verge crunching a grass seed between my teeth to test its viability, I recall it was *Bothriochloa Macra*. Doug Waterhouse had been tutoring me over the phone from Cowra.

The evolving project plan in those early stages was to use specialist contractors and also young unemployed people in Land Environment Action Program (LEAP) groups to carry out the revegetation work.

The whole thing nearly came unstuck at this critical stage of the project. The client didn't know what they wanted except perhaps to fulfil their environmental obligations. It was left to the project management team to sort out. That was me who

despite the best efforts of Sarah Sharp was having difficulty writing a consultants brief for the project.

To complicate matters about that time some one accidentally set fire to the building housing the major solids handling facilities at Lower Molonglo. My skills were required on the fire recovery project full time for a month with no replacement on the revegetation project.

### **Planning Decisions**

The consultants brief did go out but very late. As the brief was on the critical path this had a flow on affect that eventually resulted in our contractors planting the native grasses several months later than is ideal. After an exhaustive evaluation process the successful consultant Margules Groome & Poyre was engaged to prepare documents including a master plan. Margules proposed using a combination of direct seeded grass and Virocells (490,000 to be exact). The Virocells were mainly for the habitat areas where the kangaroo grass was seen as a critical element of the project.

This required a major reassessment of our options and priorities. Up to this stage in consultation with Sarah and Doug we had been planning on direct seeding the Kangaroo grass. I imagine most of us are aware of the difficulty of harvesting Kangaroo grass seed and growing it directly from seed. I had certainly been trying to come to grips with the logistics of this issue for over 12 months at this stage. We eventually agreed on the Virocell option because it seemed to offer a more predictable outcome despite the higher initial cost. Also with the alternative of direct seeding it seemed likely that we would need to do a significant amount of rework for several subsequent growing seasons to achieve the same result as Virocells. (Project Management thinking again) By the final stages of a project when the bulk of the revegetation work is typically carried out any project manager worth his or her salt will have moved on to the next project leaving the remaining management tasks to junior staff. *Projects that slip in time always result in a cost overrun.* Also it gets increasingly difficult to get work done if a contract drags on.

Our consultants team included a Virocell specialist, an entrepreneur who proved to be good value in project management terms. As the lowest price tenderer he was also successful in securing both the Virocell supply contract and also the revegetation planting contract including the Virocell planting component. This meant that I had to be particularly careful to keep track of which hat the Virocell specialist was wearing at our meetings. However his knowledge of Virocell propagation and planting techniques was first rate. Also he had a vested interest in a successful outcome for the project. Importantly from a project management perspective he met agreed deadlines for delivery and planting of Virocells.

A couple of issues stand out from the rest that cropped up during the planting phase of the project.

We had originally planned to use one or more LEAP groups to do a significant proportion of the native grass planting in conjunction with contractors. At the time of writing up the planting contract I reassessed that strategy in the light of our

committed finish date and our direct experience with a LEAP group who we were using at that time to do the major part of the tree propagation and planting work.

My assessment was that a successful outcome for the project in terms of time and cost would be at risk if we were to rely on a LEAP group to do a significant proportion of the work. Although we had a good retention rate and were happy with our first LEAP group, other groups we knew of had experienced drop out rates of up to 80%. 'What if' scenario calculations also indicated it would be more cost effective to do the Virocell planting by contract. Once again this was project management risk assessment at work. As it turned out the second LEAP group were almost fully occupied with tree planting although we did get them involved with collecting some native grass seed and Virocell planting.

Probably the single most difficult issue to resolve is one that is unlikely to be repeated elsewhere. The resident Kangaroo population on or close to the construction site was estimated to be of the order of 60 animals. By late in the growing season the lush green newly planted Virocells must have looked very attractive to the kangaroos compared to their normal fare of dry grass. In the first few weeks before the Virocells were able to establish their roots many thousands were pulled right out of the ground by grazing kangaroos.

Culling the Kangaroos was obviously not an option so I explored a number of temporary fencing options. However the cost in excess of \$20,000 was a problem as was the time frame for getting a temporary fence in place. There were also questions about the effectiveness of a temporary fence.

It is now a matter of history and some media interest that the project team, and by team I include both the consultant and the contractor, came up with and adopted the innovative solution of covering the newly planted Virocells with a synthetic growth fabric during the root establishment phase. We did a pilot trial before proceeding to cover the field plantings with up to 8,000 square metres at any given time. We had some problems with this technique however it was a cost effective method of protecting the Virocells from the Kangaroos. It also had the added benefit of promoting growth in what was turned out to be a late start of the Virocell planting.

### **Conclusion**

The success or otherwise of the native grass project I have used as an example is still to be judged. Early indications are that the cool season grasses planted late in Autumn are going really well. However the Kangaroo grass which was planted about Easter looks very patchy and follow up planting is planned.

In terms of this conference what I have tried to do is provide you with some insights into project management on a construction site involved with planning and managing a native grass revegetation project. I believe these sorts of insights are an important basis for better communication between organisations like Friends of the Grasslands and people in the construction industry involved with native grass revegetation.